

NOTHOCHAULIODES PENAI, A NEW GENUS AND SPECIES OF MEGALOPTERA FROM CHILE (NEUROPTERA: CORYDALIDAE)¹

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ABSTRACT: *Nothochauliodes penai*, new genus, new species, is described and figured. It is found on the coastal mountains of Maule Province in Chile. A key is provided to separate the genus from the related genera *Neohermes*, *Protochauliodes*, and *Taeniochauliodes*.

In 1973 I reviewed the Megaloptera known to occur in Chile. In the nearly ten intervening years, numerous additional collections from this country have been examined, but all material has proven to be known species. Early in 1982 a collection from the coastal ranges was received from the noted Chilean naturalist and collector, Sr. Luis E. Peña G. In the lot were two male specimens of a species that differed strikingly from all known Chilean Megaloptera. Study shows these to represent an undescribed genus and species related to the chauliodine genera *Neohermes* (North America), *Protochauliodes* (North America, Chile, Australia), and *Taeniochauliodes* (South Africa).

Family Corydalidae

Subfamily Chauliodinae

Genus *Nothochauliodes*, new genus

Antenna filiform, with short hair: of 45-50 segments. Head lacking postocular ridge and spine; with raised, non-setose, muscle attachment scars. Pronotum roughly quadrate. Forewing with Rs branching pectinately, R₄ not forked; M₁₊₂ forked; Cu₁ forked; anterior branch of 2A fused to 1A for a short distance. Hindwing with Rs branching pectinately. R₄ not forked; M₁₊₂ forked; CU₁ forked; both branches of 2A arising close together, adjacent to 3A.

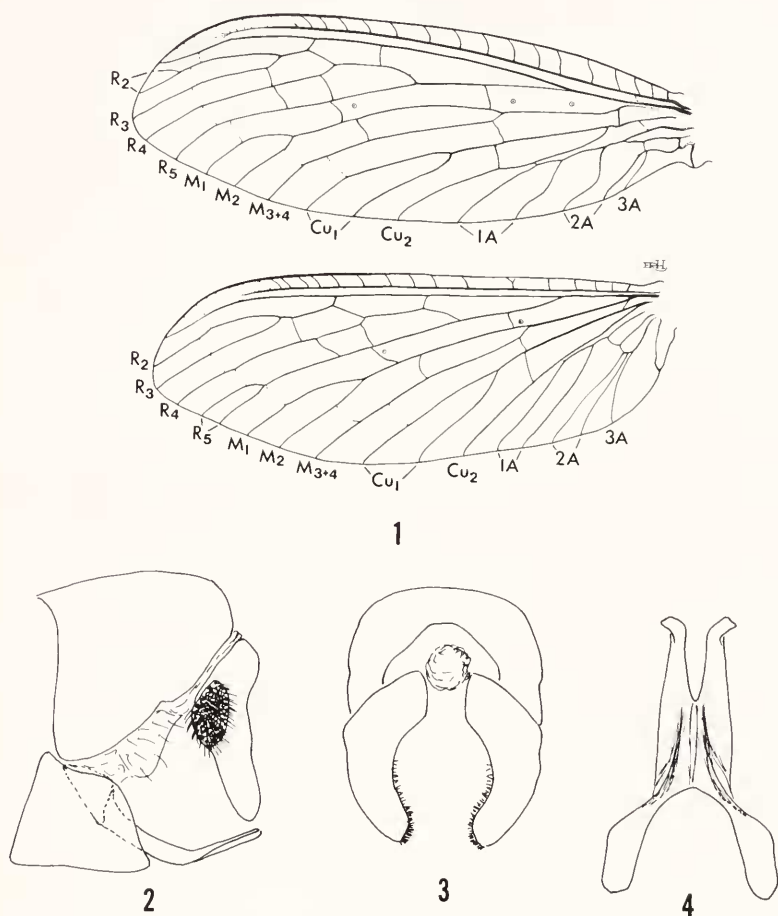
Type-species: *Nothochauliodes penai*, new species

The genus belongs to the cluster of genera held together by the apotypy of the fusion for a short distance of the anterior branch of 2A with 1A in the forewing. In two of the genera in this series (*Neohermes* and *Protochauliodes*), R₄ in both the fore- and hindwings is forked. In *Nothochauliodes* and *Taeniochauliodes* the vein is simple, resulting in the appearance of pectinate branching of the Rs system. The vein M₁₊₂ in the fore- and hindwings is branched in *Nothochauliodes*. In *Taeniochauliodes* this vein is not branched in either wing, and in *Protochauliodes* and *Neohermes* is

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branched only in the hindwing (in *P. bullocki* Flint, the largest species of the genus, $M_1 + 2$ is usually branched in both wings but R_4 is forked). Thus the combination of the venational characteristics of an unbranched R_4 in both wings and a branched $M_1 + 2$ in both wings will distinguish *Nothochauliodes* from all other described genera showing the fusion of the anterior branch of 2A with 1A in the forewing. In addition to these characters, the male genitalia differ strongly from those of the other related genera. The vertical orientation of the tenth tergites appears to be unique within the subfamily.



Figs. 1-4. *Nothochauliodes penai*: 1, fore- and hindwings (drawn by Elaine R. Hodges); 2, male genitalia, lateral; 3, male ninth and tenth terga, posterior; 4, aedeagus, dorsal.

The very long, slender, and deeply divided aedeagus is also very unusual, if not unique.

The genus will run in Kimmins (1954) key to the Chauliodinae to couplet 4, genus *Protochauliodes*. Couplets 3 and 4 may be modified as below to allow easy separation of the four related genera.

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|-----|--|-------------------------|
| 3. | Anterior branch of M in hindwing forked..... | 3A |
| | Anterior branch of M in hindwing simple..... | <i>Taeniochauliodes</i> |
| 3A. | R ₄ of fore- and hindwings simple..... | <i>Nothochauliodes</i> |
| | R ₄ of fore- and hindwings forked..... | 4 |
| 4. | Male antenna with a whorl of erect hairs on each segment, no crossvein in apical fork of R ₄ in forewing (rarely present in large specimens)..... | <i>Protochauliodes</i> |
| | Male antenna with whorls of erect hairs on each segment; a crossvein in apical fork of R ₄ in forewing (rarely absent)..... | <i>Neohermes</i> |

Nothochauliodes penai, new species

Because the genus is monotypic, the species at this time is recognizable by the generic characters. If other species are discovered, specific characteristics ought to be evident in the male genitalia, as they are in related genera. Coloration often, but not invariably, differs between species.

Adult. — Length of forewing, 27-30 mm. Color pale brown, head brown, muscle scars virtually concolorous; pronotum with distinctly darker lateral bands; forewing mostly pale brown with short, darker, transverse maculae, generally darkest on veins giving them a distinct dotted appearance; hindwing, except for anal area, similarly marked, but dotting on veins less pronounced. Male genitalia: Ninth tergum large, with ventral margin oblique. Ninth sternum roughly triangular in lateral aspect; in ventral aspect with posterior margin almost semicircular. Tenth tergite elongate, almost vertical in lateral aspect, with a large basolateral cercal area; in posterior aspect with tergite slightly arcuate with apicomeral face bearing many, small, black setae. Posterior region of genitalia partially membranous, but with a large area between and below tenth tergites lightly sclerotized and sparsely setate. Aedeagus in lateral aspect long, slender, and slightly curved; in dorsal aspect with anterior margin deeply and broadly divided, lateral arms expanded anteriorly, produced into a long, slender lobe posteriorly which is deeply and narrowly divided mesally, tips hooked slightly laterad.

Variation. — In the two specimens available, there are a number of venational differences. The type, the larger specimen, has in the forewing a small apical fork to the anteriormost branch of R_s in both sides, R₅ (on the side not figured) has an apical fork, and one of the hindwings (figured) has an apical fork in R₅. The smaller specimen lacks all these, that I believe to be, extra forks of the radial system.

Material. — Holotype, male: Chile, Provincia Maule, Cayurranquíl, west of Cauquenes, 400m, 23-31 Jan 1981, L.E. Peña G. USNM Type 100591. Paratype: Same data, 1♂.

LITERATURE CITED

- Flint, Oliver S., Jr. 1973. The Megaloptera of Chile (Neuroptera). *Rev. Chil. Ent.* 7: 31-45.
 Kimmins, D.E. 1954. A New Genus and some New Species of the Chauliodini (Megaloptera). *Bull. Brit. Mus. (Nat. Hist.), Ent.* 3(11): 417-444.